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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/583,212

11/22/2006

Valerie Frankard

1187-30

2213

28249 7590 08/17/2009
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SUITE 405
WOODBURY, NY 11797

EXAMINER

COLLINS, CYNTHIA E

ART UNIT

PAPER NUMBER

1638

MAIL DATE

DELIVERY MODE

08/17/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/583,212	Applicant(s) FRANKARD ET AL.	
	Examiner Cynthia Collins	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,9 and 11-28 is/are pending in the application.
- 4a) Of the above claim(s) 1-3 and 15-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4,5,9 and 11-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Election/Restrictions

The Amendment filed April 27, 2009 has been entered.

Claims 6-8, 10 and 29-34 are cancelled.

Claims 4, 9 and 11 are currently amended.

Claims 1-5, 9 and 11-28 are pending.

Claims 1-3 and 15-28 are withdrawn.

Claims 4-5, 9 and 11-14 are examined.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

All previous objections and rejections not set forth below have been withdrawn.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 11, and claims 12-14 dependent thereon, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 11 is indefinite in the recitation of “preferably a prolamin promoter”, as it is unclear whether and under what conditions a prolamin promoter would be preferred.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 4-5 and 9 are rejected under 35 U.S.C. 102(a) as being anticipated by INZE et al. I (WO 03/085115, published 16 October 2003).

Claims 4-5 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by INZE et al. II (U.S. Patent Application Publication US 2005/0221290, published October 6, 2005 and filed April 8, 2003).

The claims are drawn to a method for improving plant growth characteristics, said method comprising introducing and expressing in a plant an isolated nucleic acid molecule encoding a GRUBX protein, said GRUBX protein consisting of the amino acid sequence set forth in SEQ ID NO:2, including a method wherein said nucleic acid molecule encoding a GRUBX protein is overexpressed in a plant, including a method wherein said nucleic acid molecule is set forth in SEQ ID NO: 1.

INZE et al. I and II teach a method comprising introducing and expressing or overexpressing in a plant a nucleic acid molecule isolated from the plant *Nicotiana tabacum* that comprises the nucleotide sequence set forth in SEQ ID NO: 1, and that encodes a protein consisting of the amino acid sequence set forth in SEQ ID NO:2 (See INZE et al. I and II SEQ

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ID NO:61; INZE et al. I page 12 lines 4-19 and page 13 lines 23-26; INZE et al. II paragraphs [0060], [0063], [0067], [0068], [0069]; see also the sequence alignments below). While INZE et al. I and II are silent with respect to whether their method is “for improving plant growth characteristics”, INZE et al. I and II need not explicitly teach this limitation in order to anticipate the claimed invention, since the recitation in the preamble of claim 4 is an intended use for the claimed method, and thus not limiting.

```

RESULT 2
ADF38002
ID   ADF38002 standard; cDNA; 1729 BP.
XX
AC   ADF38002;
XX
DT   12-FEB-2004   (first entry)
XX
DE   Synchronised tobacco BY2 cDNA sequence SEQ ID NO:61.
XX
KW   identification; validation; plant; agrochemical; gene; ss.
XX
OS   Nicotiana tabacum.
XX
PN   WO2003085115-A2.
XX
PD   16-OCT-2003.
XX
PF   08-APR-2003; 2003WO-EP003703.
XX
PR   10-APR-2002; 2002EP-00447062.
PR   15-JUL-2002; 2002US-0396124P.
XX
PA   (CROP-) CROPDESIGN NV.
XX
PI   Inze D, Broekaert W;
XX
DR   WPI; 2003-804308/75.
XX
PT   Identifying and validating plant genes or proteins as targets for
PT   agrochemicals, useful for producing agrochemical-resistant plants,
PT   comprises determining and down regulating the gene or protein expression
PT   profiles of a plant.
XX
PS   Claim 12; SEQ ID NO 61; 183pp; English.
XX
CC   The present invention describes a method for identifying and validating
CC   plant genes/proteins as targets for agrochemicals comprising determining
CC   the gene or protein expression profiles of a plant and downregulating the
CC   expression of the gene or protein in the plant or plant cell. Also
CC   described: (1) methods for screening candidate agrochemical compounds,
CC   comprising the use of the above method or the use of any of the 785 fully
CC   defined nucleotide sequences (ADF37942 to ADF38726) or protein sequences,
CC   or their homologues, functional fragments or derivatives; (2) a method
CC   for producing an agrochemical resistant plant, comprising the use of the
CC   above-mentioned nucleotide or protein sequences; (3) an isolated nucleic
CC   acid that is identified by any of the above methods or that comprises at
CC   least a part of a nucleic acid sequence chosen from any of the 785
CC   nucleotide sequences given in the specification; (4) a plant tolerant to
CC   an agrochemical, in which the expression level of one or more of the
CC   nucleic acid sequences given in the specification is modulated; and (5) a
CC   harvestable part of the plant described above. The method is useful in
CC   identifying and validating plant targets for agrochemicals or in
CC   producing an agrochemical resistant plant. The nucleic acid or protein
CC   can be used as a target for an agrochemical compound, particularly
CC   herbicide. The present sequence represents a synchronised tobacco BY2
CC   cDNA nucleotide sequence which is used in the exemplification of the
CC   present invention.
XX
SQ   Sequence 1729 BP; 527 A; 301 C; 391 G; 510 T; 0 U; 0 Other;

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Alignment Scores:

Pred. No.:	1.47e-206	Length:	1729
Score:	2310.00	Matches:	459
Percent Similarity:	100.0%	Conservative:	0
Best Local Similarity:	100.0%	Mismatches:	0
Query Match:	100.0%	Indels:	0
DB:	2	Gaps:	0

US-10-583-212-2 (1-459) x ADF38002 (1-1729)

```
Qy      1 MetGlyAspMetLysAspLysValLysGlyPheMetLysLysValThrSerSerSerSer 20
      |||
Db      276 ATGGGTGACATGAAGGATAAAGTCAAAGGGTTCATGAAAAAGTCACATCTTCTTCTCA 335

Qy      21 GlyLysPheLysGlyGlnGlyArgValLeuGlyGlySerSerSerSerGlyProSerAsn 40
      |||
Db      336 GGTAAGTTTAAAGGCCAAGGTAGGGTTTGGGTGGTTCATCTTCTCAGGACCTCAAAT 395

Qy      41 HisValAsnAsnPheSerSerHisProLeuAsnThrArgGlnAspGlnGlnProSerTyr 60
      |||
Db      396 CATGCAATAATTTTCATCACATCCCCTAAATACAAGGCAAGATCAACACCTTCATAT 455

Qy      61 ThrLysThrSerProGlnLysProSerAsnSerAspGlnArgIleGluAsnIleCysGlu 80
      |||
Db      456 ACAAAAACCTTCGCCTCAAAAACCAAGTAATTCTGATCAAGAATTGAGAATATATGTGAA 515

Qy      81 IleGlnPheAsnLysSerGluSerLysAspGlyPheAspProPheGlyGluLeuValThr 100
      |||
Db      516 ATTCAGTTCAACAAAAGTGAATCAAAGGATGGTTTGGATCCATTTGGTGAATTAGTCACT 575

Qy     101 SerGlyLysArgAsnProLysGlyTyrSerLeuThrAsnValPheGluCysProValCys 120
      |||
Db      576 TGTGGGAAGAGAAACCAAGGGTATTCACTACTAATGTGTTGAATGCCCTGTCTGT 635

Qy     121 GlySerGlyPheValSerGluGluGluValSerThrHisIleAspSerCysLeuSerSer 140
      |||
Db      636 GGTAGTGGTTTTGTTTCTGAAGAAGAGGTGTCAACTCATATTGATAGCTGTTAAGTTCT 695

Qy     141 GluValSerSerAsnLeuGlyValGluSerLysValGluValLysSerGluLeuGluThr 160
      |||
Db      696 GAAGTGTCTTCTAATTTGGGAGTTGAAAGTAAAGTTGAAGTTAAAAGTGAATTGGAACA 755

Qy     161 CysValSerAlaTyrValSerGlyLysProSerGluGlySerValGluValValIleLys 180
      |||
Db      756 TGTGTTAGTGCATATGTTTCAGGGAAGCCCTCAGAAGGGTCAGTTGAAGTGGTCATTAAG 815

Qy     181 LeuLeuLysAsnIleValLysGluProGluAsnAlaLysPheArgLysIleArgMetGly 200
      |||
Db      816 TTGTTAAAGATATTGTGAAGGAACAGAGAATGCCAAGTTTAGGAAAATAAGGATGGGG 875

Qy     201 AsnProLysIleLysGlyAlaIleGlyAspValValGlyGlyValGluLeuLeuGluPhe 220
      |||
Db      876 AATCCAAAAATAAAAGGTGCTATAGGTGATGTTGTAGGAGAGTGGAGCTATTGGAATTT 935

Qy     221 ValGlyPheGluLeuLysGluGluGlyGlyGluIleTrpAlaValMetAspValProSer 240
      |||
Db      936 GTTGATTTGAGTTGAAAGAAAGGTGGGAAATTGGGCTGTGATGGATGTTCTTCT 995

Qy     241 GluGluGlnLeuValMetLeuLysAsnValValSerLeuLeuGluProLysLysValGlu 260
      |||
Db      996 GAAGAACAACTTGTTATGCTTAAGAATGTAGTTTCACTCTTGGAAACGAAGAAGGTTGAA 1055

Qy     261 GluLeuAlaSerLeuSerGlnValLysAlaSerGluProValGluProLysLysIleAsp 280
      |||
Db     1056 GAGTTGGCGTCCTTATCCCAAGTTAAGGCGAGTGAACAGTTGAGCCGAAGAAGATTGAT 1115

Qy     281 ArgGlnIleArgValPhePheSerValProGluSerValAlaAlaLysIleGluLeuPro 300
      |||
Db     1116 AGACAGATTCGAGTGTTCTTTCTGTTCCCGAGAGCGTAGCAGCAAAAATTGAGCTACCT 1175

Qy     301 AspSerPhePheAsnLeuSerArgGluGluLeuArgArgGluAlaGluMetArgLysLys 320
      |||
Db     1176 GATTCTCTTCTTAACCTCTCACGTGAGGAATTGAGAAGAGAAGCAGAGATGAGGAAGAAG 1235

Qy     321 LysLeuGluAspSerLysLeuLeuIleProLysSerTyrArgGluLysGlnAlaLysAla 340
      |||
Db     1236 AAATTAGAAGATTCCAAATTATTGATTCTTAATCTTATCGGAAAGCAGGCAAAAGCT 1295

Qy     341 AlaArgLysLysTyrThrLysSerIleIleArgValGlnPheProAspGlyAlaLeuLeu 360
      |||
Db     1296 GCAAGAAAGAAGTACACAAAATCCATTATCCGTGTACAGTTTCCAGATGGAGCATTGCTT 1355

Qy     361 GlnGlyValPheLeuProSerGluProThrSerAlaLeuTyrGluPheValSerAlaAla 380
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Db      1356  |||||
1356  CAAGGTGTCCTTTCTACCTTCGGAGCCAAGTAGTGCTCTTTATGAGTTGTGAGCGCAGCG 1415
Qy      381  LeuLysGluProSerLeuGluPheGluLeuLeuHisProValLeuValLysLysArgVal 400
1416  TTAAAGGAACCAAGCTTAGAGTTCGAATTGTTACATCCGGTGCTTGTTAAAAAGCGGGTG 1475
Db      401  |||||
401  IleProHisPheProAlaAlaGlyGluArgAlaValThrValGluGluGluAspLeuVal 420
1476  ATTCCCCATTTTCCAGCTGCTGGGGAGAGGGCTGTAACAGTTGAAGAGGAGGATTGTGTT 1535
Qy      421  |||||
421  ProAlaAlaLeuLeuLysPheLysProIleGluThrAspSerValValPheThrGlyLeu 440
1536  CTGCAGCTCTACTCAAATTTAAACCTATCGAAACAGATTCTGTTGTTTTACTGGTCTT 1595
Db      441  |||||
441  CysAsnGluLeuLeuGluIleSerGluProLeuGluThrGlySerValAlaSerSer 459
1596  TGTAAATGAGCTTCTTGAAATTAGCGAGCCCTCGAGACCGGATCAGTTGCTTCCTCG 1652
```

RESULT 2

ADF38002

ID ADF38002 standard; cDNA; 1729 BP.

XX

AC ADF38002;

XX

DT 12-FEB-2004 (first entry)

XX

DE Synchronised tobacco BY2 cDNA sequence SEQ ID NO:61.

XX

KW identification; validation; plant; agrochemical; gene; ss.

XX

OS Nicotiana tabacum.

XX

PN WO2003085115-A2.

XX

PD 16-OCT-2003.

XX

PF 08-APR-2003; 2003WO-EP003703.

XX

PR 10-APR-2002; 2002EP-00447062.

PR

15-JUL-2002; 2002US-0396124P.

XX

PA (CROP-) CROPDESIGN NV.

XX

PI Inze D, Broekaert W;

XX

DR WPI; 2003-804308/75.

XX

PT Identifying and validating plant genes or proteins as targets for
PT agrochemicals, useful for producing agrochemical-resistant plants,
PT comprises determining and down regulating the gene or protein expression
PT profiles of a plant.

XX

PS Claim 12; SEQ ID NO 61; 183pp; English.

XX

CC The present invention describes a method for identifying and validating
CC plant genes/proteins as targets for agrochemicals comprising determining
CC the gene or protein expression profiles of a plant and downregulating the
CC expression of the gene or protein in the plant or plant cell. Also
CC described: (1) methods for screening candidate agrochemical compounds,
CC comprising the use of the above method or the use of any of the 785 fully
CC defined nucleotide sequences (ADF37942 to ADF38726) or protein sequences,
CC or their homologues, functional fragments or derivatives; (2) a method
CC for producing an agrochemical resistant plant, comprising the use of the
CC above-mentioned nucleotide or protein sequences; (3) an isolated nucleic
CC acid that is identified by any of the above methods or that comprises at
CC least a part of a nucleic acid sequence chosen from any of the 785
CC nucleotide sequences given in the specification; (4) a plant tolerant to
CC an agrochemical, in which the expression level of one or more of the
CC nucleic acid sequences given in the specification is modulated; and (5) a
CC harvestable part of the plant described above. The method is useful in
CC identifying and validating plant targets for agrochemicals or in
CC producing an agrochemical resistant plant. The nucleic acid or protein
CC can be used as a target for an agrochemical compound, particularly
CC herbicide. The present sequence represents a synchronised tobacco BY2
CC cDNA nucleotide sequence which is used in the exemplification of the
CC present invention.

XX

SQ Sequence 1729 BP; 527 A; 301 C; 391 G; 510 T; 0 U; 0 Other;

Query Match 100.0%; Score 1380; DB 10; Length 1729;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 1380; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy 1 ATGGGTGACATGAAGGATAAAGTCAAAGGGTTCATGAAAAAGTCACATCTTCTTCTTCA 60
|||||
Db 276 ATGGGTGACATGAAGGATAAAGTCAAAGGGTTCATGAAAAAGTCACATCTTCTTCTTCA 335
Qy 61 GGTAAGTTTAAAGGCCAAGGTAGGGTTTTGGGTGGTTCATCTTCTTCAGGACCTCAAAT 120
|||||
Db 336 GGTAAGTTTAAAGGCCAAGGTAGGGTTTTGGGTGGTTCATCTTCTTCAGGACCTCAAAT 395
Qy 121 CATGTCAATAATTTTTTCATCACATCCCCTAAATACAAGGCAAGATCAACAACCTTCATAT 180
|||||
Db 396 CATGTCAATAATTTTTTCATCACATCCCCTAAATACAAGGCAAGATCAACAACCTTCATAT 455
Qy 181 ACAAAAACCTTCGCCTCAAAAACCAAGTAATCTGATCAAAGAATTGAGAATATATGTGAA 240
|||||
Db 456 ACAAAAACCTTCGCCTCAAAAACCAAGTAATCTGATCAAAGAATTGAGAATATATGTGAA 515
Qy 241 ATTCAGTTCAACAAAAGTGAATCAAAGGATGGTTTTGATCCATTGGTGAATTAGTCACT 300
|||||
Db 516 ATTCAGTTCAACAAAAGTGAATCAAAGGATGGTTTTGATCCATTGGTGAATTAGTCACT 575
Qy 301 TCTGGGAAGAGAAACCCAAAAGGGTATTCACCTACTAATGTGTTTGAATGCCCTGTCTGT 360
|||||
Db 576 TCTGGGAAGAGAAACCCAAAAGGGTATTCACCTACTAATGTGTTTGAATGCCCTGTCTGT 635
Qy 361 GGTAGTGGTTTTGTTTCTGAAGAAGAGGTGTCAACTCATATTGATAGCTGTTAAGTTCT 420
|||||
Db 636 GGTAGTGGTTTTGTTTCTGAAGAAGAGGTGTCAACTCATATTGATAGCTGTTAAGTTCT 695
Qy 421 GAAGTGTCTTCTAATTTGGGAGTTGAAAGTAAAGTTGAAGTTAAAAGTGAATTGGAAACA 480
|||||
Db 696 GAAGTGTCTTCTAATTTGGGAGTTGAAAGTAAAGTTGAAGTTAAAAGTGAATTGGAAACA 755
Qy 481 TGTGTTAGTGCATATGTTTCAGGGAAGCCCTCAGAAGGGTCAGTTGAAGTGGTCATTAAG 540
|||||
Db 756 TGTGTTAGTGCATATGTTTCAGGGAAGCCCTCAGAAGGGTCAGTTGAAGTGGTCATTAAG 815
Qy 541 TTGTTAAAGAATATTGTGAAGGAACCAGAGAATGCCAAGTTTAGGAAAATAAGGATGGGG 600
|||||
Db 816 TTGTTAAAGAATATTGTGAAGGAACCAGAGAATGCCAAGTTTAGGAAAATAAGGATGGGG 875
Qy 601 AATCCAAAAATAAAAGGTGCTATAGGTGATGTTGTAGGAGGAGTGGAGCTATTGGAATTT 660
|||||
Db 876 AATCCAAAAATAAAAGGTGCTATAGGTGATGTTGTAGGAGGAGTGGAGCTATTGGAATTT 935
Qy 661 GTTGGATTGAGTTGAAAGAAGAAGGTGGGAAAATTTGGGCTGTGATGGATGTTCTTCT 720
|||||
Db 936 GTTGGATTGAGTTGAAAGAAGAAGGTGGGAAAATTTGGGCTGTGATGGATGTTCTTCT 995
Qy 721 GAAGAACAACCTTGTATGCTTAAGAATGTAGTTTCACTCTTGAACCGAAGAAGGTTGAA 780
|||||
Db 996 GAAGAACAACCTTGTATGCTTAAGAATGTAGTTTCACTCTTGAACCGAAGAAGGTTGAA 1055
Qy 781 GAGTTGGCGTCTTATCCCAAGTTAAGCGAGTGAACAGTTGAGCCGAAGAAGATTGAT 840
|||||
Db 1056 GAGTTGGCGTCTTATCCCAAGTTAAGCGAGTGAACAGTTGAGCCGAAGAAGATTGAT 1115
Qy 841 AGACAGATTGAGTGTCTTTCTGTTCCCGAGAGCGTAGCAGCAAAAATTGAGCTACCT 900
|||||
Db 1116 AGACAGATTGAGTGTCTTTCTGTTCCCGAGAGCGTAGCAGCAAAAATTGAGCTACCT 1175
Qy 901 GATTCCCTCTTTAACCTCTCACGTGAGGAATTGAGAAGAGAAGCAGAGATGAGGAAGAAG 960
|||||
Db 1176 GATTCCCTCTTTAACCTCTCACGTGAGGAATTGAGAAGAGAAGCAGAGATGAGGAAGAAG 1235
Qy 961 AAATTAGAAGATTCCAAATTATTGATTCTTAATCTTATCGGGAAAAGCAGGCAAAAGCT 1020
|||||
Db 1236 AAATTAGAAGATTCCAAATTATTGATTCTTAATCTTATCGGGAAAAGCAGGCAAAAGCT 1295
Qy 1021 GCAAGAAAGAAGTACAAAAATCCATTATCCGTGTACAGTTTCCAGATGGAGCATTGCTT 1080
|||||
Db 1296 GCAAGAAAGAAGTACAAAAATCCATTATCCGTGTACAGTTTCCAGATGGAGCATTGCTT 1355
Qy 1081 CAAGGTGTCTTTTACCTTCGGAGCCAACCTAGTGCTCTTTATGAGTTTGTGAGCGCAGCG 1140
|||||
Db 1356 CAAGGTGTCTTTTACCTTCGGAGCCAACCTAGTGCTCTTTATGAGTTTGTGAGCGCAGCG 1415
Qy 1141 TTAAAGGAACCAAGCTTAGAGTTCGAATTGTTACATCCGGTGCTTGTTAAAAAGCGGGTG 1200
|||||
Db 1416 TTAAAGGAACCAAGCTTAGAGTTCGAATTGTTACATCCGGTGCTTGTTAAAAAGCGGGTG 1475
Qy 1201 ATTCCCCATTTTCCAGCTGCTGGGAGAGGGCTGTAACAGTTGAAGAGGAGGATTTGGTT 1260
|||||

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```
Db      1476 ATTCCCCATTTTCCAGCTGCTGGGGAGAGGGCTGTAACAGTTGAAGAGGAGGATTTGGTT 1535
Qy      1261 CCTGCAGCTCTACTCAAATTTAAACCTATCGAAACAGATTCTGTTGTTTTTACTGGTCTT 1320
          |||
Db      1536 CCTGCAGCTCTACTCAAATTTAAACCTATCGAAACAGATTCTGTTGTTTTTACTGGTCTT 1595
Qy      1321 TGTAAATGAGCTTCTTGAAATTAGCGAGCCCCCTCGAGACCGGATCAGTTGCTTCCTCGTAA 1380
          |||
Db      1596 TGTAAATGAGCTTCTTGAAATTAGCGAGCCCCCTCGAGACCGGATCAGTTGCTTCCTCGTAA 1655
```

RESULT 2

US-10-510-871-61

; Sequence 61, Application US/10510871

; Publication No. US20050221290A1

; GENERAL INFORMATION:

; APPLICANT: INZE, DIRK

; APPLICANT: BROEKAERT, WILLEM

; TITLE OF INVENTION: IDENTIFICATION AND VALIDATION OF NOVEL TARGETS FOR AGROCHEMICALS

; FILE REFERENCE: 4559-045163

; CURRENT APPLICATION NUMBER: US/10/510,871

; CURRENT FILING DATE: 2004-10-08

; PRIOR APPLICATION NUMBER: PCT/EP03/03703

; PRIOR FILING DATE: 2003-04-08

; PRIOR APPLICATION NUMBER: EP 02447062.7

; PRIOR FILING DATE: 2002-04-10

; PRIOR APPLICATION NUMBER: US 60/396,124

; PRIOR FILING DATE: 2002-08-01

; NUMBER OF SEQ ID NOS: 794

; SOFTWARE: PatentIn version 3.2

; SEQ ID NO 61

; LENGTH: 1729

; TYPE: DNA

; ORGANISM: Unknown Organism

; FEATURE:

; OTHER INFORMATION: polynucleotide sequence that is cell cycle modulated or

; OTHER INFORMATION: involved in the cell cycle process

US-10-510-871-61

Alignment Scores:

Pred. No.:	2.25e-222	Length:	1729
Score:	2310.00	Matches:	459
Percent Similarity:	100.0%	Conservative:	0
Best Local Similarity:	100.0%	Mismatches:	0
Query Match:	100.0%	Indels:	0
DB:	11	Gaps:	0

US-10-583-212-2 (1-459) x US-10-510-871-61 (1-1729)

```
Qy      1 MetGlyAspMetLysAspLysValLysGlyPheMetLysLysValThrSerSerSerSer 20
          |||
Db      276 ATGGGTGACATGAAGGATAAAGTCAAAGGGTTCATGAAAAAGTCACATCTTCTTCA 335
Qy      21 GlyLysPheLysGlyGlnGlyArgValLeuGlyGlySerSerSerSerGlyProSerAsn 40
          |||
Db      336 GGTAAGTTTAAAGCCCAAGGTAGGGTTTTGGGTGGTTCATCTTCTCAGACCTCAAAT 395
Qy      41 HisValAsnAsnPheSerSerHisProLeuAsnThrArgGlnAspGlnGlnProSerTyr 60
          |||
Db      396 CATGTCAATAATTTTTCATCACATCCCCTAAATACAAGGCAAGATCAACAACCTTCATAT 455
Qy      61 ThrLysThrSerProGlnLysProSerAsnSerAspGlnArgIleGluAsnIleCysGlu 80
          |||
Db      456 ACAAAAACCTTCGCCTCAAAAACCAAGTAATTCATGATCAAAGAATTGAGAATATATGTGAA 515
Qy      81 IleGlnPheAsnLysSerGluSerLysAspGlyPheAspProPheGlyGluLeuValThr 100
          |||
Db      516 ATTCAGTTCAACAAAAGTGAATCAAAGGATGGTTTTGATCCATTTGGTGAATTAGTCACT 575
Qy      101 SerGlyLysArgAsnProLysGlyTyrSerLeuThrAsnValPheGluCysProValCys 120
          |||
Db      576 TCTGGGAAGAGAAACCCAAAAGGGTATTCACCTACTAATGTGTTTGAATGCCCTGTCTGT 635
Qy      121 GlySerGlyPheValSerGluGluGluValSerThrHisIleAspSerCysLeuSerSer 140
          |||
Db      636 GGTAGTGGTTTTTTTCTGAAGAAGAGGTGTCAACTCATATTGATAGCTGTTAAGTTCT 695
Qy      141 GluValSerSerAsnLeuGlyValGluSerLysValGluValLysSerGluLeuGluThr 160
          |||
Db      696 GAAGTGTCTTCTAATTTGGGAGTTGAAAGTAAAGTTGAAGTTAAAAGTGAATTGGAAACA 755
Qy      161 CysValSerAlaTyrValSerGlyLysProSerGluGlySerValGluValValIleLys 180
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Db      756  |||TGTGTAGTGCATATGTTTCAGGGAAGCCCTCAGAAGGGTCAGTTGAAGTGGTCATTAAG 815
Qy      181  LeuLeuLysAsnIleValLysGluProGluAsnAlaLysPheArgLysIleArgMetGly 200
Db      816  TTGTTAAAGAATATTGTGAAGGAACCAGAGAATGCCAAGTTTAGGAAAATAAGGATGGGG 875
Qy      201  AsnProLysIleLysGlyAlaIleGlyAspValValGlyGlyValGluLeuLeuGluPhe 220
Db      876  AATCCAAAAATAAAGGTGCTATAGGTGATGTTGTAGGAGGAGTGGAGCTATTGGAATTT 935
Qy      221  ValGlyPheGluLeuLysGluGluGlyGlyGluIleTrpAlaValMetAspValProSer 240
Db      936  GTTGGATTGAGTTGAAAGAAGAAGGTGGGAAATTTGGGCTGTGATGCATGTTCTTCT 995
Qy      241  GluGluGlnLeuValMetLeuLysAsnValValSerLeuLeuGluProLysLysValGlu 260
Db      996  GAAGAACAACCTGTTTATGCTTAAGAATGTAGTTTCACTCTTGAACCGAAGAAGGTTGAA 1055
Qy      261  GluLeuAlaSerLeuSerGlnValLysAlaSerGluProValGluProLysLysIleAsp 280
Db      1056  GAGTTGGCGTCCCTATCCCAAGTTAAGCGAGTGAACCAAGTTGAGCCGAAGAAGATTGAT 1115
Qy      281  ArgGlnIleArgValPhePheSerValProGluSerValAlaAlaLysIleGluLeuPro 300
Db      1116  AGACAGATTTCGAGTGTTCTTTCTGTTCCCGAGAGCGTAGCAGCAAAAATTGAGCTACCT 1175
Qy      301  AspSerPhePheAsnLeuSerArgGluGluLeuArgArgGluAlaGluMetArgLysLys 320
Db      1176  GATTTCCTCTTTAACCTCTCACGTGAGGAATTGAGAAGAGAAGCAGAGATGAGGAAGAAG 1235
Qy      321  LysLeuGluAspSerLysLeuLeuIleProLysSerTyrArgGluLysGlnAlaLysAla 340
Db      1236  AAATTAGAAAGATTCCAAATTATTGATTCTTAATCTTATCGGAAAAGCAGGCAAAAGCT 1295
Qy      341  AlaArgLysLysTyrThrLysSerIleIleArgValGlnPheProAspGlyAlaLeuLeu 360
Db      1296  GCAAGAAAGAAAGTACACAAAATCCATTATCCGTGTACAGTTTCCAGATGGAGCATTGCTT 1355
Qy      361  GlnGlyValPheLeuProSerGluProThrSerAlaLeuTyrGluPheValSerAlaAla 380
Db      1356  CAAGGTGTCTTTTACCTTCGGAGCCAACTAGTGCTCTTTATGAGTTTGTGAGCGCAGCG 1415
Qy      381  LeuLysGluProSerLeuGluPheGluLeuLeuHisProValLeuValLysLysArgVal 400
Db      1416  TTAAAGGAACCAAGCTTAGAGTTCGAATTGTTACATCCGGTGCTTGTTAAAAAGCGGGTG 1475
Qy      401  IleProHisPheProAlaAlaGlyGluArgAlaValThrValGluGluGluAspLeuVal 420
Db      1476  ATTCCCCATTTTCAGCTGCTGGGAGAGGGCTGTAACAGTTGAAGAGGAGGATTTGGTT 1535
Qy      421  ProAlaAlaLeuLeuLysPheLysProIleGluThrAspSerValValPheThrGlyLeu 440
Db      1536  CCTGCAGCTCTACTCAAATTTAAACCTATCGAAACAGATTCTGTTGTTTTTACTGGTCTT 1595
Qy      441  CysAsnGluLeuLeuGluIleSerGluProLeuGluThrGlySerValAlaSerSer 459
Db      1596  TGTAATGAGCTTCTTGAAATTAGCGAGCCCTCGAGACCGGATCAGTTGCTTCCTCG 1652

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RESULT 2

US-10-510-871-61

; Sequence 61, Application US/10510871

; Publication No. US20050221290A1

; GENERAL INFORMATION:

; APPLICANT: INZE, DIRK

; APPLICANT: BROEKAERT, WILLEM

; TITLE OF INVENTION: IDENTIFICATION AND VALIDATION OF NOVEL TARGETS FOR AGROCHEMICALS

; FILE REFERENCE: 4559-045163

; CURRENT APPLICATION NUMBER: US/10/510,871

; CURRENT FILING DATE: 2004-10-08

; PRIOR APPLICATION NUMBER: PCT/EP03/03703

; PRIOR FILING DATE: 2003-04-08

; PRIOR APPLICATION NUMBER: EP 02447062.7

; PRIOR FILING DATE: 2002-04-10

; PRIOR APPLICATION NUMBER: US 60/396,124

; PRIOR FILING DATE: 2002-08-01

; NUMBER OF SEQ ID NOS: 794

; SOFTWARE: PatentIn version 3.2

; SEQ ID NO 61

; LENGTH: 1729

; TYPE: DNA

; ORGANISM: Unknown Organism

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; FEATURE:
; OTHER INFORMATION: polynucleotide sequence that is cell cycle modulated or
; OTHER INFORMATION: involved in the cell cycle process
US-10-510-871-61

	Query Match	100.0%;	Score 1380;	DB 11;	Length 1729;
	Best Local Similarity	100.0%;	Pred. No. 0;		
	Matches 1380;	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0;
Qy	1	ATGGGTGACATGAAGGATAAAGTCAAAGGGTTCATGAAAAAGTCACATCTTCTTCTTCA	60		
Db	276	ATGGGTGACATGAAGGATAAAGTCAAAGGGTTCATGAAAAAGTCACATCTTCTTCTTCA	335		
Qy	61	GGTAAGTTTAAAGGCCAAGGTAGGGTTTTGGGTGGTTCATCTTCTCAGGACCTCAAAT	120		
Db	336	GGTAAGTTTAAAGGCCAAGGTAGGGTTTTGGGTGGTTCATCTTCTCAGGACCTCAAAT	395		
Qy	121	CATGTCAATAATTTTTCATCACATCCCCTAAATACAAGGCAAGATCAACACCTTCATAT	180		
Db	396	CATGTCAATAATTTTTCATCACATCCCCTAAATACAAGGCAAGATCAACACCTTCATAT	455		
Qy	181	ACAAAACTTCGCCTCAAAAACCAAGTAATCTGATCAAAGAATTGAGAATATATGTGAA	240		
Db	456	ACAAAACTTCGCCTCAAAAACCAAGTAATCTGATCAAAGAATTGAGAATATATGTGAA	515		
Qy	241	ATTGAGTTCAACAAAAGTGAATCAAAGGATGGTTTTGATCCATTGGTGAATTAGTCACT	300		
Db	516	ATTGAGTTCAACAAAAGTGAATCAAAGGATGGTTTTGATCCATTGGTGAATTAGTCACT	575		
Qy	301	TCTGGGAAGAGAAACCCAAAAGGGTATTCACCTACTAATGTGTTTGAATGCCCTGTCTGT	360		
Db	576	TCTGGGAAGAGAAACCCAAAAGGGTATTCACCTACTAATGTGTTTGAATGCCCTGTCTGT	635		
Qy	361	GGTAGTGGTTTTGTTTCTGAAGAAGAGGTGTCAACTCATATTGATAGCTGTTTAAGTTCT	420		
Db	636	GGTAGTGGTTTTGTTTCTGAAGAAGAGGTGTCAACTCATATTGATAGCTGTTTAAGTTCT	695		
Qy	421	GAAGTGTCTTCTAATTTGGGAGTTGAAAGTAAAGTTGAAGTTAAAAGTGAATTGGAAACA	480		
Db	696	GAAGTGTCTTCTAATTTGGGAGTTGAAAGTAAAGTTGAAGTTAAAAGTGAATTGGAAACA	755		
Qy	481	TGTGTTAGTGCATATGTTTCAGGGAAGCCCTCAGAAGGGTCAGTTGAAGTGGTCATTAAG	540		
Db	756	TGTGTTAGTGCATATGTTTCAGGGAAGCCCTCAGAAGGGTCAGTTGAAGTGGTCATTAAG	815		
Qy	541	TTGTTAAAGAATATTGTGAAGGAACAGAGAATGCCAAGTTTAGGAAAATAAGGATGGGG	600		
Db	816	TTGTTAAAGAATATTGTGAAGGAACAGAGAATGCCAAGTTTAGGAAAATAAGGATGGGG	875		
Qy	601	AATCCAAAAATAAAAGGTGCTATAGGTGATGTTGTAGGAGGAGTGGAGCTATTGGAATTT	660		
Db	876	AATCCAAAAATAAAAGGTGCTATAGGTGATGTTGTAGGAGGAGTGGAGCTATTGGAATTT	935		
Qy	661	GTTGGATTGAGTTGAAAGAAGAAGGTGGGAAAATTTGGGCTGTGATGGATGTTCTTCT	720		
Db	936	GTTGGATTGAGTTGAAAGAAGAAGGTGGGAAAATTTGGGCTGTGATGGATGTTCTTCT	995		
Qy	721	GAAGAACAACCTGTTATGCTTAAGAATGTAGTTTCACTCTTGGAACCGAAGAAGGTTGAA	780		
Db	996	GAAGAACAACCTGTTATGCTTAAGAATGTAGTTTCACTCTTGGAACCGAAGAAGGTTGAA	1055		
Qy	781	GAGTTGGCGTCCTTATCCCAAGTTAAGCGAGTGAACAGTTGAGCCGAAGAAGATTGAT	840		
Db	1056	GAGTTGGCGTCCTTATCCCAAGTTAAGCGAGTGAACAGTTGAGCCGAAGAAGATTGAT	1115		
Qy	841	AGACAGATTGAGTGTCTTTTCTGTTCCCGAGAGCGTAGCAGCAAAAATTGAGCTACCT	900		
Db	1116	AGACAGATTGAGTGTCTTTTCTGTTCCCGAGAGCGTAGCAGCAAAAATTGAGCTACCT	1175		
Qy	901	GATTCCTTCTTTAACCTCTCACGTGAGGAATTGAGAAGAGAAGCAGAGATGAGGAAGAAG	960		
Db	1176	GATTCCTTCTTTAACCTCTCACGTGAGGAATTGAGAAGAGAAGCAGAGATGAGGAAGAAG	1235		
Qy	961	AAATTAGAAGATTCCAAATTATTGATTCTTAATCTTATCGGGAAAAGCAGGCAAAAAGCT	1020		
Db	1236	AAATTAGAAGATTCCAAATTATTGATTCTTAATCTTATCGGGAAAAGCAGGCAAAAAGCT	1295		
Qy	1021	GCAAGAAAGAAGTACAAAAATCCATTATCCGTGTACAGTTTCCAGATGGAGCATTGCTT	1080		
Db	1296	GCAAGAAAGAAGTACAAAAATCCATTATCCGTGTACAGTTTCCAGATGGAGCATTGCTT	1355		
Qy	1081	CAAGGTGTCTTTTACCTTCGGAGCCAACTAGTGCTCTTTATGAGTTTGTGAGCGCAGCG	1140		

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Db      1356 CAAGGTGTCTTTCTACCTTCGGAGCCAAGTAGTGCTCTTTATGAGTTTGTGAGCGCAGCG 1415
Qy      1141 TTAAAGGAACCAAGCTTAGAGTTCGAATTGTTACATCCGGTGCTTGTTAAAAAGCGGGTG 1200
      |||
Db      1416 TTAAAGGAACCAAGCTTAGAGTTCGAATTGTTACATCCGGTGCTTGTTAAAAAGCGGGTG 1475
Qy      1201 ATTCCCCATTTTCCAGCTGCTGGGGAGAGGGCTGTAAACAGTTGAAGAGGAGGATTTGGTT 1260
      |||
Db      1476 ATTCCCCATTTTCCAGCTGCTGGGGAGAGGGCTGTAAACAGTTGAAGAGGAGGATTTGGTT 1535
Qy      1261 CCTGCAGCTCTACTCAAATTTAAACCTATCGAAACAGATTCTGTTGTTTTACTGGTCTT 1320
      |||
Db      1536 CCTGCAGCTCTACTCAAATTTAAACCTATCGAAACAGATTCTGTTGTTTTACTGGTCTT 1595
Qy      1321 TGTAATGAGCTTCTTGAAATTAGCGAGCCCTCGAGACCGGATCAGTTGCTTCCTCGTAA 1380
      |||
Db      1596 TGTAATGAGCTTCTTGAAATTAGCGAGCCCTCGAGACCGGATCAGTTGCTTCCTCGTAA 1655

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Applicants point out that in response to the prior rejection, claim 4 has been amended to recite: “A method for improving plant growth characteristics, said method comprising introducing and expressing in a plant an isolated nucleic acid molecule encoding a GRUBX protein, said GRUBX protein consisting of the amino acid sequence set forth in SEQ ID NO:2.”. Applicants maintain that with respect to INZE et al. I being treated as a section 102(a) reference, that INZE et al. I does not teach a method of improving plant characteristics via introduction and expression of a nucleic acid molecule encoding a protein consisting of the amino acid sequence set forth in SEQ ID NO:2. (reply pages 11-12)

The Examiner maintains that both INZE et al. I and II anticipate the rejected claims, as the recitation in the preamble of claim 4 is an intended use for the claimed method, and thus not limiting. The Examiner also maintains that the nucleic acid molecule taught by INZE et al. I and II encodes a protein consisting of the amino acid sequence set forth in SEQ ID NO:2, as evidenced by the start and stop codons of SEQ ID NO:61.

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Remarks

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Collins whose telephone number is (571) 272-0794. The examiner can normally be reached on Monday-Friday 8:45 AM -5:15 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571) 272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cynthia Collins/
Primary Examiner, Art Unit 1638

CC